

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method of setting a communication environment between a mobile terminal and a smart card using a layered architecture of a protocol stack including an application layer including a plurality of applications and a transmission layer including a plurality of communication environments capable of supporting the plurality of applications of the application layer, the method comprising:

if the mobile terminal provides power to the smart card, sending an answer-to-reset signal from the smart card to the mobile terminal;

determining whether or not the received answer-to-reset signal complies with an answer-to-reset signal pattern required by the mobile terminal;

if the received answer-to-reset signal complies with an answer-to-reset signal pattern required by the mobile terminal, analyzing the answer-to-reset signal transferred from the smart card to establish a communication environment suitable for an application to be used at present;

if the optimum communication environment is established, sending a command for requesting to open a logical channel, which is to be used in the application, to the smart card;

opening the logical channel in response to the command for requesting to open the logical channel received from the mobile terminal, and sending a signal responding to the command to the mobile terminal;

opening the logical channel to be used in the application to secure a communication channel between the smart card and the mobile terminal;

wherein if the optimum communication environment is not established, the mobile terminal sends a protocol/parameter selecting request to the smart card and the smart card responds if the protocol and parameter are supported, otherwise the smart card enters a standby mode to receive a reset command;

wherein the answer-to-reset signal transferred from the smart card comprises at least one of a communication speed and a communication protocol, which are supported by the smart card itself; and

wherein the smart card supports a plurality of applications and a plurality of communication speeds and protocols that correspond to each application.

2. (Cancelled)

3. **(currently amended)** The method as claimed in claim 1, wherein, in the determining step, if the received answer-to-reset signal does not comply with an answer-to-reset signal pattern required by the mobile terminal, the method further comprising:

determining whether or not a process of a protocol and parameters selection is executed in the mobile terminal; and

~~if the mobile terminal executes the process of the protocol and parameters selection,~~
sending a command for requesting to select the protocol and parameters to the smart card only if the mobile terminal executes the process of the protocol and parameters selection, otherwise sending a command for requesting to open a logical channel, which is to be used in the application, to the smart card.

4. **(currently amended)** The method as claimed in claim 1,
wherein the smart card and the mobile terminal each comprise
a transmission layer comprising a plurality of communication speeds and protocols supported by the smart card or the mobile terminal for transmitting and receiving a data, and
an application layer comprising a plurality of applications supported by the smart card or the mobile terminal for processing the data, respectively.

5. (Cancelled)

6. (Cancelled)

7. **(currently amended)** A storage medium storing therein a program executable by a digital processor for executing a method of setting a communication environment between a mobile terminal and a smart card using a layered architecture of a protocol stack, ~~the storage medium capable of being read by a digital processor, and storing a program of commands executed by the digital processor, the program being implemented by types, with the program comprising:~~

if the mobile terminal provides power to the smart card, sending an answer-to-reset signal from the smart card to the mobile terminal;

determining whether or not the received answer-to-reset signal complies with an answer-to-reset signal pattern required by the mobile terminal;

if the received answer-to-reset signal complies with an answer-to-reset signal pattern required by the mobile terminal, analyzing the answer-to-reset signal transferred from the smart card to establish a communication environment suitable for an application to be used at present;

if the optimum communication environment is established, sending a command for requesting to open a logical channel, which is to be used in the application, to the smart card;

opening the logical channel in response to the command for requesting to open the logical channel received from the mobile terminal, and sending a signal responding to the command to the mobile terminal;

opening the logical channel to be used in the application to ensure a communication channel between the smart card and the mobile terminal;

wherein if the optimum communication environment is not established, the mobile terminal sends a protocol/parameter selecting request to the smart card and the smart card responds if the protocol and parameter are supported, otherwise the smart card enters a standby mode to receive a reset command;

wherein the answer-to-reset signal transferred from the smart card comprises at least one of a communication speed and a communication protocol, which are supported by the smart card itself;

wherein the smart card supports a plurality of applications and a plurality of communication speeds and protocols that correspond to each application.

8 (Cancelled)

9. **(currently amended)** The ~~program~~ storage medium as claimed in claim 7, wherein, in the determining step, if the received answer-to-reset signal does not comply with an answer-to-reset signal pattern required by the mobile terminal, the program further comprising:

determining whether or not a process of a protocol and parameters selection is executed in the mobile terminal; and

~~if the mobile terminal executes the process of the protocol and parameters selection,~~
sending a command for requesting to select the protocol and parameters to the smart card only if
the mobile terminal executes the process of the protocol and parameters selection, otherwise
sending a command for requesting to open a logical channel, which is to be used in the
application, to the smart card.

10. **(currently amended)** The ~~program~~ storage medium as claimed in claim 7, wherein the smart card and the mobile terminal each comprise a transmission layer for transmitting and receiving a data, and an application layer for processing the data, respectively;

wherein the application layer of the smart card and the mobile terminal includes a plurality of applications, and the transmission layer of the smart card and the mobile terminal includes a plurality of communication environments capable of supporting the plurality of applications of the application layer; and

wherein the transmission layer and the application layer are independently embodied to each other, so that one application is supported by a plurality of communication protocols and one communication protocol supports a plurality of applications.

11. (Cancelled)

12. (Cancelled)

13. **(currently amended)** A method of setting a communication environment between a mobile terminal and a smart card using a layered architecture of a protocol stack, the system comprising:

if the mobile terminal provides power to the smart card, sending an answer-to-reset signal from the smart card to the mobile terminal;

determining whether or not the received answer-to-reset signal complies with an answer-to-reset signal pattern required by the mobile terminal;

if the received answer-to-reset signal complies with an answer-to-reset signal pattern required by the mobile terminal, analyzing the answer-to-reset signal transferred from the smart card to establish a communication environment suitable for an application to be used at present;

if the optimum communication environment is established, sending a command for requesting to open a logical channel, which is to be used in the application, to the smart card;

opening the logical channel in response to the command for requesting to open the logical channel received from the mobile terminal, and sending a signal responding to the command to the mobile terminal;

opening the logical channel to be used in the application to secure a communication channel between the smart card and the mobile terminal;

wherein the smart card and the mobile terminal each comprise a transmission layer for transmitting and receiving data, and an application layer for processing the data, respectively; and

wherein the transmission layer and the application layer of each of the smart card and the mobile terminal are independently embodied to each other, so that one application is supported by a plurality of communication protocols and one communication protocol supports a plurality of applications.

14. **(currently amended)** A method of setting a communication environment between a mobile terminal and a smart card using a layered architecture of a protocol stack, the system comprising:

if the mobile terminal provides power to the smart card, sending an answer-to-reset signal from the smart card to the mobile terminal;

determining whether or not the received answer-to-reset signal complies with an answer-to-reset signal pattern required by the mobile terminal;

if the received answer-to-reset signal complies with an answer-to-reset signal pattern required by the mobile terminal, analyzing the answer-to-reset signal transferred from the smart card to establish a communication environment suitable for an application to be used at present;

if the optimum communication environment is established, sending a command for requesting to open a logical channel, which is to be used in the application, to the smart card;

opening the logical channel in response to the command for requesting to open the logical channel received from the mobile terminal, and sending a signal responding to the command to the mobile terminal;

opening the logical channel to be used in the application to secure a communication channel between the smart card and the mobile terminal;

wherein if the optimum communication environment is not established, the mobile terminal sends a protocol/parameter selecting request to the smart card and the smart card responds if the protocol and parameter are supported, otherwise the smart card enters a standby mode to receive a reset command;

wherein the smart card and the mobile terminal each comprise a transmission layer for transmitting and receiving data, and an application layer for processing the data, respectively; and

wherein the transmission layer and the application layer of each of the smart card and the mobile terminal are independently embodied to each other, so that one application is supported by a plurality of communication protocols and one communication protocol supports a plurality of applications.

15. **(currently amended)** The method as claimed in claim 3, wherein, in the determining step, if the received answer-to-reset signal does not comply with an answer-to-reset signal pattern required by the mobile terminal, the method further comprising:

determining whether ~~the process of~~ the protocol and parameters selection is supported by the smart card, which receives the command for requesting to select the protocol and parameters from the mobile terminal; and

if the smart card supports the protocol and parameters selection, sending a signal responding to the command for requesting to select the protocol and parameters to the mobile terminal to ensure the communication channel between the smart card and the mobile terminal.

16. **(currently amended)** The ~~program~~ storage medium as claimed in claim 9, wherein, in the determining step, if the received answer-to-reset signal does not comply with an answer-to-reset signal pattern required by the mobile terminal, the program further comprising:
determining whether ~~the process of~~ the protocol and parameters selection is supported by the smart card, which receives the command for requesting to select the protocol and parameters from the mobile terminal; and

if the smart card supports the protocol and parameters selection, sending a signal responding to the command for requesting to select the protocol and parameters to the mobile terminal to ensure the communication channel between the smart card and the mobile terminal.

17. **(new)** The method as claimed in claim 1, further comprising:
changing the application used at present to another application selected from the plurality of applications supported by the smart card; and
establishing another communication environment suitable for said another application and secure another communication channel between the smart card and the mobile terminal based on said another communication environment.

18. **(new)** The method as claimed in claim 17, wherein the optimum communication environment is dynamically established for the application to be used at present.

19. **(new)** The storage medium as claimed in claim 7, wherein the program further comprises:
changing the application used at present to another application selected from the plurality of applications supported by the smart card; and

establishing another communication environment suitable for said another application and secure another communication channel between the smart card and the mobile terminal based on said another communication environment.

20. **(new)** The storage medium as claimed in claim 19, wherein the optimum communication environment is dynamically established for the application to be used at present.

21. **(new)** The method as claimed in claim 13, further comprising:
changing the application used at present to another application selected from the plurality of applications supported by the smart card; and
establishing another communication environment suitable for said another application and secure another communication channel between the smart card and the mobile terminal based on said another communication environment.

22. **(new)** The method as claimed in claim 21, wherein the optimum communication environment is dynamically established for the application to be used at present.

23. **(new)** The method as claimed in claim 14, further comprising:
changing the application used at present to another application selected from the plurality of applications supported by the smart card; and
establishing another communication environment suitable for said another application and secure another communication channel between the smart card and the mobile terminal based on said another communication environment.

24. **(new)** The method as claimed in claim 23, wherein the optimum communication environment is dynamically established for the application to be used at present.